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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------------|------------------|
| 10/559,546 | 12/02/2005 | Brian Douglas Smith | P-356.36 (PCT) (US) | 2962 |
| 7590 . Thomas E Sisson Jackson Walker 112 E Pecan St Suite 2100 San Antonio, TX 78205 | | | EXAMINER MONIKANG, GEORGE C | |
| | | | ART UNIT 2615 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 04/05/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/559,546 | Applicant(s) SMITH ET AL. | |
| | Examiner George C. Monikang | Art Unit 2615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10559546.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The inventor does not clearly show in any of the figures or disclose in the specification wherein the tubular body is non-circular in section. Claim 26 will be read and rejected as best understood by the examiner:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4 & 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoureshi, US Patent 5,629,986.

Re Claim 1, Shoureshi discloses an audio system, comprising an audio frequency actuator coupled to a body so as to cause the body to radiate sound when an

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audio signal is supplied to the actuator by a controller (fig. 1), and an acoustic sensor coupled to said body or to an adjacent body so as to sense acoustic vibrations in said body (fig. 1: 2; col. 4, lines 19-24), the sensor being connected to the controller (fig. 1: 4), whereby the controller is arranged to change the audio signal supplied to the actuator (fig. 1: 10) according to the vibrations sensed by the sensor (col. 4, lines 48-59).

Re Claim 3, Shoureshi discloses an audio system according to claim 1, wherein the actuator and the sensor are coupled to the same body (figs. 1).

Re Claim 4, Shoureshi discloses an audio system according to claim 3, wherein the sensor is incorporated into the actuator (col. 4, lines 48-59).

Re Claim 9, Shoureshi discloses an audio system according to claim 1, wherein the controller is arranged to detect acoustic signals with predetermined characteristics in the output from the sensor (col. 4, lines 20-29) and to supply to the actuator an audio output signal selected according to said characteristics (col. 4, lines 48-59).

Re Claim 10, Shoureshi discloses an audio system according to claim 9, wherein the detected characteristics represent ambient noise and the output signal is a random sound signal such as white noise or pink noise adapted to provide a degree of masking of the ambient noise (col. 8, lines 36-44).

Re Claim 11, Shoureshi disclose an audio system according to claim 9, wherein the detected characteristics represent the quality of the audio signal supplied to the actuator and the controller is adapted to correct the supplied audio signal in accordance

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with the detected characteristics to improve the sound radiated in the space (abstract: filter).

Claims 22-23 & 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Hodgson et al, US Patent 5,526,292.

Re Claim 22, Hodgson et al discloses an audio system, comprising an audio frequency actuator coupled to a body which is not a flat panel so as to cause the body to radiate sound when an audio signal is supplied to the actuator by a controller (col. 1, lines 49-67).

Re Claim 23, Hodgson et al discloses an audio system according to claim 22, wherein the body is a tubular body (fig. 13: body of airplane is tubular).

Claims 26 & 27 have been analyzed and rejected according to claim 23.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2, 12-16 & 29-30 are rejected under 35 U.S.C. 102(e) as being anticipated by MacMartin et al, US Patent 7,003,380 B2.

Re Claim 2, MacMartin et al discloses an audio system (fig. 1), comprising an audio frequency actuator coupled to a body so as to cause the body to radiate sound when an audio signal is supplied to the actuator (fig. 1: 104a-104n) by a controller (fig.

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1: 107), and an acoustic sensor coupled to said body or to an adjacent body so as to sense acoustic vibrations in said body (fig. 1: 128a-a28n), the sensor being connected to the controller (fig. 1), whereby the controller is arranged to detect predetermined characteristics of the sensed acoustic vibrations and to output an alerting signal in response thereto (col. 2, lines 58-67).

Re Claim 12, MacMartin et al discloses an audio system according to claim 2, wherein the predetermined characteristics represent a damaging attack on said body (col. 2, lines 35-45).

Re Claim 13, MacMartin et al discloses an audio system according to claim 2, wherein the predetermined characteristics represent the sounds generated by a person within the space (col. 2, lines 35-45).

Re Claim 14, MacMartin et al discloses an audio system according to claim 2, wherein the alerting signal causes output of an audible (col. 2, lines 58-67).

Re Claim 15, MacMartin et al discloses an audio system according to claim 13, wherein the alerting signal is used to control the operation of lighting and/or heating within the space (col. 2, lines 58-67: forces 1321-n outputted from actuators to compensate for the sensed vibration could be used has power).

Re Claim 16, MacMartin et al discloses an audio system according to claim 13, wherein the alerting signal is used to control the supply of audio signals to the actuator (fig. 1: 132 & 103; col. 2, lines 58-67).

Re Claim 29, MacMartin et al discloses an audio system according to claim 2, wherein the actuator and the sensor are coupled to the same body (fig. 1).

Re Claim 30, MacMartin et al discloses an audio system according to claim 29, wherein the sensor is incorporated into the actuator (128a-128n & 104a-104n).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoureshi, US Patent 5,629,986 as applied to claim 1 above, in view of Wan, US Patent 5,978,489.

Re Claim 5, Shoureshi discloses an audio system according to claim 1, but fails to disclose wherein the actuator is a magnetostrictive actuator. However, Wan does (col. 2, lines 41-45).

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Taking the combined teaching of Shoureshi and Wan as a whole, one skilled in the art would have found it obvious to modify the audio system of Shoureshi with wherein the actuator is a magnetostrictive actuator as taught in Wan (col. 2, lines 41-45) so that the actuators could change their shapes when subjected to a magnetic field.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoureshi, US Patent 5,629,986 as applied to claim 1 above, in view of Todd et al, US Patent 6,609,985 B1.

Re Claim 6, Shoureshi discloses an audio system according to claim 1, but fails to disclose wherein the sensor is a piezoelectric device. However, Todd et al does (fig. 6: 133).

Taking the combined teachings of Shoureshi and Todd et al as a whole, one skilled in the art would have found it obvious to modify the audio system of Shoureshi with wherein the sensor is a piezoelectric device as taught in Todd et al (fig. 6: 133) so that the system can measure pressure, acceleration, strain and force by converting them to an electrical signal.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoureshi, US Patent 5,629,986 as applied to claim 1 above, in view of Lou et al, US Patent 6,920,794 B2.

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Re Claim 7, Shoureshi discloses an audio system according to claim 1, but fails to disclose wherein the body is a flexible panel. However, Lou et al does (col. 1, lines 24-31).

Taking the combined teachings of Shoureshi and Lou et al as a whole, one skilled in the art would have found it obvious to modify audio system of Shoureshi with wherein the body is rigid or flexible panel as taught in Lou et al (col. 1, lines 24-31) so that the audio system can operate within a vehicle at excess speeds.

Re Claim 8, the combined teachings of Shoureshi and Lou et al disclose an audio system according to claim 7, wherein the panel is a vehicle (Shoureshi, fig. 2).

Claims 17 & 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todd et al, US Patent 6,609,985, in view of Shoureshi, US Patent 5,629,986.

Re Claim 17, Todd et al discloses a noise control system comprising, control means (fig. 5: 61) to detect ambient sound and arranged to generate a control signal in anti-phase to the detected sound (col. 15, lines 51-57), and a transducer supplied with the control signal (fig. 5: 65), the transducer being attached to the surface so as to cause the surface to radiate sound waves which reduce the amplitude of the ambient sound in a region (col. 22, lines 27-46) but fails to disclose control means connected to a microphone and the sound being disposed adjacent to the microphone. However, Shoureshi does (col. 4, lines 19-24).

Taking the combined teachings of Todd et al and Shoureshi as a whole, one skilled in the art would have found it obvious to modify the noise control system

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comprising, control means (fig. 5: 61) to detect ambient sound and arranged to generate a control signal in anti-phase to the detected sound (col. 15, lines 51-57), and a transducer supplied with the control signal (fig. 5: 65), the transducer being attached to the surface so as to cause the surface to radiate sound waves which reduce the amplitude of the ambient sound in a region (col. 22, lines 27-46) of Todd et al with control means connected to a microphone and the sound being disposed adjacent to the microphone as taught in Shoureshi (col. 4, lines 19-24) to induce a vibratory moment.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Todd et al, US Patent 6,609,985 and Shoureshi, US Patent 5,629,986 as applied to claim 17 above, in view of Wan, US Patent 5,978,489.

Re Claim 18, the combined teachings of Todd et al and Shoureshi disclose a noise control system according to claim 17, but fails to disclose wherein the transducer comprises a giant magnetostrictive material (GMM) element whose change in strain under the influence of an audio frequency magnetic field induces sound waves into the surface. However, Wan does (col. 2, lines 41-45).

Taking the combined teachings of Todd et al, Shoureshi and Wan as a whole, one skilled in the art would have found it obvious to modify the noise control system of Todd et al and Shoureshi with wherein the transducer comprises a giant magnetostrictive material (GMM) element whose change in strain under the influence of an audio frequency magnetic field induces sound waves into the surface as taught in

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Wan (col. 2, lines 41-45) so that the transducers could change their shapes when subjected to a magnetic field.

Re Claim 19, the combined teachings of Todd et al and Shoureshi disclose a noise control system according to claim 17, comprising means for filtering from the control signal speech adjacent to the microphone (Shoureshi, abstract: filter).

Re Claim 20, the combined teachings of Todd et al and Shoureshi disclose the noise control system according to claim 17, installed in or on a bar or counter (Shoureshi, col. 3, lines 28-34).

Claim 21 has been analyzed and rejected according to claim 20.

Claims 24 & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hodgson et al, US Patent 5,526,292.

Re Claim 24, Hodgson et al discloses an audio system according to claim 23, but fails to disclose wherein the tubular body is an item of street furniture or a support therefor.

However, such limitation is the inventor's preference thus it would have been obvious for Hodgson et al to modify their audio system for the motivation of limiting the vibration caused by an audio system on a furniture piece.

Re Claim 25, Hodgson et al discloses an audio system according to claim 24, wherein the tubular body is a supporting post for a sign.

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However, such limitation is the inventor's preference thus it would have been obvious for Hodgson et al to modify their audio system for the motivation of limiting the vibration caused by an audio system on a post sign.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hodgson et al, US Patent 5,526,292 as applied to claim 23 above, in view of Wan, US Patent 5,978,489.

Re Claim 28, Hodgson et al disclose an audio system according to claim 23, but fails to disclose wherein the audio frequency actuator is a transducer comprising a giant magnetostrictive material (GMM) element whose change in strain under the influence of an audio frequency magnetic field induces sound waves into the surface. However, Wan does (col. 2, lines 41-45).

Taking the combined teaching of Hodgson et al and Wan as a whole, one skilled in the art would have found it obvious to modify the audio system of Hodgson et al with wherein the audio frequency actuator is a transducer comprising a giant magnetostrictive material (GMM) element whose change in strain under the influence of an audio frequency magnetic field induces sound waves into the surface as taught in Wan (col. 2, lines 41-45) so that the actuators could change their shapes when subjected to a magnetic field.

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Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over MacMartin et al, US Patent 7,003,380 B2 as applied to claim 2 above, in view of Wan, US Patent 5,978,489.

Re Claim 31, MacMartin et al discloses an audio system according to claim 2, but fails to disclose wherein the actuator is a magnetostrictive actuator. However, Wan does (col. 2, lines 41-45).

Taking the combined teaching of MacMartin et al and Wan as a whole, one skilled in the art would have found it obvious to modify the audio system of MacMartin et al with wherein the actuator is a magnetostrictive actuator as taught in Wan (col. 2, lines 41-45) so that the actuators could change their shapes when subjected to a magnetic field.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over MacMartin, US Patent 7,003,380 B2 as applied to claim 2 above, in view of Todd et al, US Patent 6,609,985 B1.

Re Claim 32, MacMartin et al discloses an audio system according to claim 2, but fails to disclose wherein the sensor is a piezoelectric device. However, Todd et al does (fig. 6: 133).

Taking the combined teachings of MacMartin et al and Todd et al as a whole, one skilled in the art would have found it obvious to modify the audio system of MacMartin et al with wherein the sensor is a piezoelectric device as taught in Todd et al

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(fig. 6: 133) so that the system can measure pressure, acceleration, strain and force by converting them to an electrical signal.

Claims 33 & 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacMartin et al, US Patent 7,003,380 B2 as applied to claim 2 above, in view of Lou et al, US Patent 6,920,794 B2.

Re Claim 33, MacMartin et al disclose an audio system according to claim 2, but fails to disclose wherein the body is rigid or flexible panel. However, Lou et al does (col. 1, lines 24-31).

Taking the combined teachings of MacMartin et al and Lou et al as a whole, one skilled in the art would have found it obvious to modify audio system of MacMartin et al with wherein the body is rigid or flexible panel as taught in Lou et al (col. 1, lines 24-31) so that the audio system can operate within a vehicle at excess speeds.

Re Claim 34, the combined teachings of MacMartin et al and Lou et al disclose an audio system according to claim 33, wherein the panel is a vehicle (MacMartin et al, fig. 2).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

4/2/2007


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